NOTES

THE Swiney Lectures on Geology (free to the public) will be delivered this year at the Royal School of Mines, Jermyn Street, on Monday and Thursday evenings at eight P.M., commencing on Monday, April 9.

AS we have already stated, the "Verein für die deutsche Nordpolarfahrt," of Bremen, has been converted into a Geographical Society (die geographische Gesellschaft in Bremen) with the object of promoting scientific exploring expeditions generally, and of publishing their results. Dr. Finsch, who was sent out by the Verein last year to the mouths of the Obi along with Dr. Brehm and Graf Waldburg-Zeil, is now busily engaged in working out the ethnographical and natural history collections made during the expedition and publishing their results. A paper of Dr. Finsch on the new birds discovered on this occasion has been received by the Zoological Society of London, and will be read at one of their next scientific meetings.

ON Friday, April 13, Mr. W. Spottiswoode will deliver a lecture at the Royal Institution on his great Induction Coil, described in the January number of the *Philosophical Magazine* and in the March number of the *Nineteenth Century*. The lecture will be illustrated with some new experiments on stratified discharges, which a coil of this enormous power has for the first time rendered practicable.

THE Leipsic publisher, Günther, has issued the first part of a new journal, *Kosmos*, specially devoted to the furtherance of the development doctrine, under the editorship of Caspari, Jäger, and Krause, with the assistance of Darwin, Haeckel, and other eminent workers in the Darwinian field. We shall give a detailed notice of the first part in an early number.

PROF. SYLVESTER seems to have become quite naturalised in the United States, if we may judge from the fact that he was one of the speakers at the celebration of Washington's birthday at the Johns Hopkins University, where, as our readers know, he is Professor of Mathematics. Prof. Sylvester spoke of his work and of his satisfaction with his new relations, as also on some points of general interest. He maintains that it is a mistake to divorce teaching and research, illustrating the advantage of their union in his own case by the fact that in the act of teaching, important fields for research have been suggested to him. Recently, for example, at the University in Baltimore, the persistence of a student in his desire to study the new algebra has led Prof. Sylvester into "a research of fascinating interest," from which he hopes for great results. He has reason "to think that the taste for mathematical study, even in its most abstract form, is much more widely diffused than is generally supposed" in the United States. Prof. Sylvester, the *Nation* tells us, spoke at considerable length and with deep feeling on the estrangement between the two great branches of the Anglo-Saxon race caused by the exclusive, ecclesiastical policy of the English Universities in former years. "Their work it is that a separation deeper and a chasm more difficult to fill up has been created between the two most free and powerful nations in the world—England and America—than any due to political causes, present or past." Why is it, he inquired, that the flower of American youth do not resort for their mental impulse and higher education to Oxford and Cambridge, instead of to Berlin, Leipzig, Jena, or Heidelberg? "It is because there they are welcomed, to whatever religious communion they are attached or unattached, without question and without distinction. It is because there they can rest on the bosom of a common mother, who shows kindness to all and favour to none. . . I have been struck, almost from the first hour of my landing on these shores, by the manifestations I have everywhere witnessed of the close intellectual sympathy which exists between America and Germany. It is German books that are read, it is German authors who are quoted, German opinion on all matters of science and learning that is appealed to; and as regards community of work and intellectual ties, I do not think it at all extravagant to assert that Germany and America belong to one hemisphere, and we in England to another." If our universities are to blame for this state of things, they have much to answer for; and it is therefore some relief to know that the New York *Nation* accounts for it by the desire of Americans to acquire another language in the country where it is spoken, and to come in contact with a different order of mind, however little superior.

DR. KLEIN, extraordinary professor of mineralogy in the University of Heidelberg, has accepted an ordinary professorship in the University of Göttingen.

THE Clothworkers' and Merchant Taylors' Companies have each contributed one hundred guineas to the fund being raised by the Chemical Society for the promotion of chemical research.

THE trustees of the Johnson Memorial Prize for the encouragement of the study of astronomy and meteorology propose the following subject for an essay, "The History of the Successive Stages of our Knowledge of Nebulæ, Nebulous Stars, and Star-clusters, from the Time of Sir William Herschel." The prize is open to all members of the University of Oxford, and consists of a gold medal of the value of ten guineas, together with so much of the dividends for four years on 338*l.* Reduced Annuities as shall remain after the cost of the medal and other expenses have been defrayed. Candidates are to send their essays to the registrar of the University, under a sealed cover marked "Johnson Memorial Prize Essay," on or before March 31, 1879, each candidate concealing his name, distinguishing his essay by a motto, and sending at the same time his name sealed up under cover with the same motto written upon it.

ONE or more minor scholarships in natural science will be offered by Downing College, Cambridge, during the present year. The scholarships range in value from 40*l.* to 70*l.* per annum, and are tenable for two years, or until the holder is elected to a foundation scholarship. The examination will be held in Downing College on June 5 and the three following days. The subjects of examination will be (1) Chemistry, theoretical and practical; (2) Physics; (3) Comparative Anatomy; and (4) Physiology. All persons are eligible to these scholarships who have not commenced to reside in the University.

ON March 7, at Gjesvär, a Norwegian fishing station, near the North Cape, in 71° 12′ N. lat., the most northerly telegraph station on the earth was opened.

THE *Conversazione* of the Quekett Club takes place on the 13th inst., at University College, Gower Street.

THREE electric eels from the River Amazon have this week been added to the Westminster Aquarium. As they require to be kept at a temperature of between 70° and 80° F. it needed some ingenuity to bring them from Liverpool, where they were landed, to London. By placing the vessel containing them on foot-warmers and telegraphing on for changes of foot-warmers at different stations, the water on arriving at Westminster was found to be at 75°. The eels are lodged in a tank kept warm by a steam pipe passing under the shingle, and are at present by the alligators. These, by the by, are waking up wonderfully in activity, and the attendants have now to keep a sharp look-out when cleaning the tank.

WE are enabled to state that the increasing number of demands for space in the Paris International Exhibition has led M. Krantz reluctantly to give up the idea of authorising the construction of the large Giffard Captive Balloon within the precincts of the Exhibition. The construction will take place at all events either on public ground lent by the Government or on some private vacant space at a small distance from the Champ de Mars. The preliminary technical arrangements have been made by M. Giffard. The length of the rope will be about 600 metres. It will be conical; the largest end close to the car will be 8 centimetres diameter, the smallest end only 6. The ascending force, when loaded with ballast, guide ropes, grapnels, and 50 passengers, will be 5 tons. The weight of the cable will be 2½ tons when fully expended. The ascending force of the hydrogen filling the envelope will be 23 tons. The diameter of the balloon will be 34 metres, the height 50 metres from the lower part of the car to the upper part of the valve, and the engine will be of 200-horse power.

THE supplementary number, 51, of Petermann's *Mittheilungen* contains the second half of the late E. De Pruyssenaere's travels in the region of the White and Blue Nile. This part contains the special scientific results of the accomplished traveller—meteorological observations, barometrical altitude observations, river measurements, astronomical observations, triangulation of a part of the Jezîra, besides the southern half of the map, constructed by the editor, Herr Zoeppritz, and a plate of some of the implements, weapons, utensils, ornaments, &c., used by the inhabitants of the region traversed.

AT the meeting of the delegates of the French learned societies to be held at the Sorbonne, as we noticed last week, M. Alluard, the director of the Puy-de-Dôme Observatory, will present a most interesting paper. A self-registering barometer has been kept in constant operation on the top of the Puy-de-Dôme, and another similar instrument was observed at Clermont-Ferrand during the same length of time. The difference of pressure has undergone most remarkable variations, which cannot be accounted for by the Laplace law for determining the altitudes by comparing barometers. The corrections of temperature will be shown to be quite insufficient.

THE Scientific Congress of France, a quite distinct organisation, established by the late M. de Caumont, will hold its forty-third session at Versailles, from May 17 to 27. A number of attractive excursions have been arranged with the help of the municipal authorities, and there will be a floral exhibition.

AT the meeting of the St. Petersburg Society for the Protection of Trade, March 21, the maps prepared last summer by M Orloff during his journey to the Baydaraksky Gulf, were exhibited. The survey and levelling were made from the Irtish, up the Shchuchya River, and along the Baydaraka River to the Baydaraksky Gulf. Both rivers are navigable during the three months—June, July, and August.

A TOMSK telegram received by M. Siderof on March 18, from M. Schwanenberg's expedition, announces the find, on the banks of the Obi, near to the Mariinsky gold-washings, of a well-preserved mammoth with flesh and skin. The definitive excavation of the carcass was stopped until instructions should arrive from St. Petersburg.

DR. J. F. BRANSFORD, surgeon in the United States Navy, has been investigating the antiquities on the island of Omotepe, in Lake Nicaragua, collecting large numbers of vases of various kinds, burial urns, ornaments, and other objects for the National Museum at Washington. Among the more important points substantiated by him was the occurrence on the island of at least three successive and distinct bases of prehistoric civilisation, all of them anterior to the present epoch, these being bounded and defined by successive overflows of lava from the volcano. Very great intervals of time elapsed between the eruptions, as is shown by the accumulations of soil that took place on the fresh surface of the lava from the decomposition of vegetable deposits. No estimate can be made of these eras, but they are believed to carry the period of the earliest overflows back to a very remote antiquity. The objects of these successive layers are very definite and easily recognisable by the practised eye, and highly important deductions in regard to the early civilisation of that region are expected from a critical investigation of the subject. Dr. Bransford has prepared an elaborate report on this subject for presentation to the Navy Department, but, before publishing it, he has obtained permission to revisit the country, and settle some still doubtful points.

A MALVERN correspondent writes that he and many other residents in that part of the country are desirous of having some legislative protection for the *eggs* of such birds as are mentioned in the Wild Birds' Preservation Act. He wishes to know if there is any society for looking to the interests of wild birds; if so he and others will be glad to subscribe. The Woolhope Field Club used to give rewards for the best collection of birds' eggs, but the rule was altered when the mischief of this course as regards ornithology became evident.

THOSE of our readers who were at the Glasgow meeting of the British Association last autumn will, no doubt, remember the interesting collection which was on view in the City Industrial Museum. The Report of the Museum for 1876 has just been issued, and we are pleased to see that under the management of its Curator, Mr. Paton, it is rapidly increasing in size and importance, and we have no doubt that ere long it will become, what so important a city as Glasgow ought to possess, a really valuable industrial collection arranged on a thoroughly scientific plan.

AT a recent meeting of the French Academy M. de Romilly called attention to some remarkable effects obtained by suspension of water sucked up into a bell jar closed below by a tissue with wide meshes; in one arrangement, the net being metallic the suspended water could even be boiled by heat applied below. M. Plateau has just pointed out that he described this phenomenon of suspension in 1867, in treating of the construction of aquatic arachnida.

A propos of the question (which has been disputed) whether toads eat bees, M. Brunet states, in *La Nature*, that going one day into his garden, just before a storm, he found the bees crowding into their hives. About fifty centimetres from the best hive there was a middle-sized toad, which every now and again rose on his fore-legs and made a dart with surprising quickness towards blades of grass. He was found to be devouring bees, which rested on the grass-blades, awaiting their chance to enter the hive. M. Brunet watched till twelve victims had been devoured; he expected the toad's voracity would soon be punished with a sting, but in vain. Objecting to further destruction, he seized the toad by one of his legs and carried him to a bed of cabbage thirty metres off, where he might do real service among the caterpillars, &c. Three days after this, on going out to the hives, he found the same toad (which was easily distinguishable) at its old work. M. Brunet let him swallow only three or four bees, then carried him fifty metres in another direction. Two days later the "wretch" was again found at his post, greedily devouring.

OUR correspondent, "J. H.," in describing the path of the meteor of March 17, as seen by him at Rossall, near Fleetwood, wrote ε Hydræ for α Hydræ. The date of Mr. Ainslie Hollis's letter should have been March 19.

MR. ELLIS asks us to state that in his article on Musical Notation last week, p. 476, col. ii., lines four and five, the readings should be A_1 *fl*, A_2 *ssh*, G_2.

THE additions to the Zoological Society's Gardens during the past week include a Large-eared Brocket (*Cervus auritus*) from South America, presented by Mr. Charles Cooper ; two Common Otters (*Lutra vulgaris*), European, presented by Mr. Augustus B. Foster ; a Vulpine Phalanger (*Phalangista vulpinu*) from Australia, presented by Mr. Thos. Welsh ; two Rufous Tinamous (*Rhynchotus rufescens*) from South America, presented by Mr. F. Searle Parker ; eighteen Roach (*Leuciscus rutilus*), six Perch (*Perca fluviatilis*), six Tench (*Tinca vulgaris*), a Bream (*Abromis brama*), a Prussian Carp (*Carassius vulgaris*) from British fresh waters, presented by Mr. J. Smith ; three Fire-tailed Finches (*Erythrura prasina*) from Sumatra, purchased ; a Feline Dourocouli (*Nyctipithecus felinus*), a Kinkajou (*Cercoleptes caudivolvulus*), three Blue-shouldered Tanagers (*Tanagra cyanoptera*), an Adorned Terrapin (*Clemmys ornata*) from South America, deposited ; a Great Kangaroo (*Macropus giganteus*), a Yellow-footed Rock Kangaroo (*Petrogale xanthropus*), a Collared Fruit Bat (*Cynonycterus collaris*), a Black Swan (*Cygnus atratus*) born in the Gardens.

SOCIETIES AND ACADEMIES

LONDON

Royal Society.—March 1.—"Note on the Electrolytic Conduction of some Organic Bodies," by J. H. Gladstone, Ph.D., F.R.S., Fullerian Professor of Chemistry in the Royal Institution, and Alfred Tribe, F.C.S., Lecturer on Chemistry in Dulwich College.

Our results, preliminary as we considered them to be, show that the iodides of ethyl, isobutyl, and amyl, the bromides of ethyl and propylene, the acetate of ethyl, and chloroform are practically non-conductors to a battery-power of 100 cells Grove, and that alcohol is to some extent traversed by the current. They show also that when these liquid non-conductors are mixed with the feeble conductor, alcohol, the conductivity of the mixture is greater than that of alcohol alone, which offers at least a partial clue to the readiness with which such mixtures are decomposed by the copper-zinc couple.

The very considerable development of heat in these liquids, which conduct the electric current with great difficulty, is a circumstance worthy of notice. In these cases it is evident that it does not result from any chemical change, because the decomposition, if anything at all, is utterly insignificant in amount.

"On the Protrusion of Protoplasmic Filaments from the Glandular Hairs of the Common Teasel," by Francis Darwin. Communicated by Charles Darwin, F.R.S.

The following is a summary of the results arrived at by Mr. Darwin :—Certain observations have been made on the protrusion of protoplasmic filaments, from leaf-glands on the teasel; and the only theory which seems at all capable of connecting these facts is the following. That the glands on the teasel were aboriginally (*i.e.*, in the ancestors of the Dipsacaceæ) mere resin excreting organs. That the protoplasm which comes forth was originally a necessary concomitant of the secreted matters, but that from coming in contact with nitrogenous fluids it became gradually adapted to retain its vitality and to take on itself an absorptive function. And that this power—originally developed in relation to the ammonia in rain and dew—was further developed in relation to the decaying fluid accumulating within the connate leaves of the plant.

March 8.—"On the Structure and Development of Vascular Dentine," by Charles S. Tomes, M.A. Communicated by John Tomes, F.R.S.

March 15.—"On the Density of Solid Mercury," by Prof. J. W. Mallet, University of Virginia. Communicated by Prof. Stokes, Sec. R.S.

The author gets 14·1932 *as the number representing the density of solid mercury at its fusing point as referred to water at 4° C. taken as unity.* This result, which differs considerably from previous figures, he thinks, may be fairly accepted with confidence.

"The Automatic Action of the Sphincter Ani," by W. R. Gowers, M.D., Assistant Physician to University College Hospital. Communicated by J. S. Burdon Sanderson, M.D., F.R.S.

"Description of the Process of Verifying Thermometers at the Kew Observatory," by Francis Galton, F.R.S.

Linnean Society, March 15.—Prof. Allman, president, in the chair.—The Rev. A. Gardner Smith and Mr. A. Y. Stewart were elected Fellows.—The Secretary read a paper on the poisoned spears and arrows of the Samoa Islanders, by the Rev. Thos. Powell. The information thereon had been derived from the son of a native chief. According to his account, the weapons are pointed with human thigh and parietal bones, these being ground to a fine tapering point. A milky juice, the product of several kinds of trees—among others *Callophyllum inophyllum*—is used for dipping the arrow and the spear-heads into, and there is added a substance obtained from wasps' nests, besides some of the fluid of putrid Sea-cucumbers (*Holothuria*). A kind of kiln is then prepared, where the weapons are smoked, after which they are inserted into the dried flower-stalk of a species of *Tacca*, to prevent bad effects from humidity ; lastly, they are bundled together and laid by ready for use. The effects of the poison on the human system—viz., convulsions and tetanus, and the reputed means of cure the author duly mentions. Mr. G. Busk, however, questions the active quality of the said poison ; at least some experiments of his incline him to think that a local irritation may be set up rather than an immediate deadly influence of a virulent vegetable poison, such as is the "Woorali" of South America. On the other hand, Messrs. Nichols and Pratt corroborate Mr. Powell's statements.—Dr. A. Gunther gave a notice of two large extinct lizards formerly inhabiting the Mascarene Islands. The remains of the bones had been partly obtained by Mr. Edward Newton, already well known for his researches on the extinct Mascarene fauna, and partly by Mr. H. H. Slater, Naturalist to the Transit of Venus Expedition. Comparisons have led Dr. Gunther to regard one relatively large animal as most nearly allied to the families of Zonuridæ and Scincidæ. But it differs both from the Glass Snakes and Skinks, hence a new genus has been assigned it and the name *Didosaurus mauritianus* given. The remains of another form from Rodriguez shows it to be allied and indeed identical with the Geckos, close to *G. verus* but specifically distinct, and accordingly named *G. newtonii.*—The second part of contributions to the ornithology of New Guinea, by Mr. R. Bowdler Sharpe, dealt with a collection made by the late Dr. James. This young enthusiastic naturalist was murdered by the natives during an expedition to one of the islands in Hall's Sound, whither he had gone to collect Birds of Paradise. Of fifty-three species obtained only three are new to science, and from this it is inferred that the south-eastern province visited has by no means so rich an avifauna as the northern parts of New Guinea are known to possess. The new species are *Melidora collaris*, *Phonygama jamesii*, and *Tanysiptera microrhyncha.* But a still more interesting night-flying black hawk, *Machaeramphus alcinus*, has turned up in this locality, whose habitat previously was supposed only to be Malacca and Tenasserim. Only four specimens of this rare bird are known to exist.—Samples of supposititious "manna" from Persia, and a bark (Leptospermum ?) from New Zealand, with tonic qualities, were exhibited and remarked on by Mr. Stewart, of the Apothecaries Hall.

Zoological Society, March 20.—Dr. E. Hamilton, vice-president, in the chair.—Mr. Sclater called the attention of the meeting to an article in the *Oriental Sporting Magazine* for May, 1876, by which it appeared that a two-horned rhinoceros had been killed in February, 1876, at a place some twenty miles south of Comillah, in Tipperah. Mr. Sclater stated that this was the third recorded occurrence of a two-horned rhinoceros north of the Bay of Bengal.—Mr. Sclater also called attention to the fact that Mr. W. Jamrach had just imported a young living specimen of the rhinoceros of the Bengal Sunderbunds, which was either *Rh. sondaicus* or a very closely allied form.—Mr. Sclater exhibited a small living Amphisbænian (*Blanus cinereus*), which had been accidentally brought to England in the roots of a hot-house plant from Port St. Mary, Spain.—Messrs. Charles G. Danford and Edward R. Alston read a paper on the mammals of Asia Minor, based principally on collections made by the former in that country. The list included one species of Bat, two of Insectivores, twenty of Carnivores, seven of Ungulates, and fourteen of Rodents. *Spermo philusxanthoprymnus*, Benn., was redescribed, and the name *Mus mystacinus* was proposed for a new species of field-mouse.—Mr. A. G. Butler read a paper on the Myriopoda obtained by the Rev. G. Brown in Duke of York Island. The species sent home were two in number, both of them allied to but distinct from previously described species. Mr. Butler proposed to designate them as *Heterostoma browni* and *Spirobolus cinctipes.*—A com-